(b) a recombinant complementing gene on an extrachromosomal vector, wherein the complementing gene is a functional replacement for said essential gene of (a) and wherein said complementing gene can recombine to replace the essential gene of (a); and

(c) a desired gene on the extrachromosomal vector, wherein the desired gene is a recombinant gene encoding a desired gene product;

wherein the desired gene is stably maintained in a progeny population of the microorganism.

46. (New) An attenuated derivative of a pathogenic microorganism which comprises:

(a) a non-functional native chromosomal essential gene;

(b) a recombinant complementing gene on an extrachromosomal vector, wherein the complementing gene can recombine to replace the non-functional chromosomal essential gene;

(c) a desired gene on the extrachromosomal vector, wherein the desired gene is a recombinant gene encoding a desired gene product; and

(d) an inactivating mutation in a native gene selected from the group consisting of a *pab* gene, a *pur* gene, and *aro* gene, *nadA, pncB, gale, pmi, fur, rpsL, ompR, htrA, hemA, cdt, cya, crp, dam, phoP, phoQ, rfc, poxA, falU, mviA, sodC, recA, ssrA, sirA, inv, hilA, rpoE, flgM, tonB,* and *slyA;*

wherein said complementing gene of (b) is a functional replacement for said essential gene of (a), wherein the desired gene is stably maintained in a progeny population of the microorganism.